



INFORMATION SHEET 2 - FUELSTAT[®] *resinae* PLUS Test Kit

(Previously called Kerosene Advanced)

FAQ – Technical issues

Q... No pink lines have appeared at all, why?

A... This usually means that the Extraction Buffer fluid has not been allowed to settle fully in the sample bottle dropper cap, so neat fuel has been added to the test well. As the test fails-safe, no lines will be seen. The test cannot be reused and a new foil pack must be opened.

Q... Are the control lines supposed to be brighter than the test lines?

A... Yes, the control line shows that the kit has operated properly and should be very distinct. The test line is a response to the level of contamination in the fuel and is usually less bright.

Q... But the test line is very faint; does that mean that it is positive?

A... No, if you can see a test line, even a faint one, then the test is negative. This is due to the fact that the line does start to fade when the contamination level is near to the action levels. So, if you can see a line then the level is below the cut-off point, so the test is negative. However, a number of faint lines appearing would indicate that a problem could be developing and the tank should be monitored more frequently.

Q... Do I need to incubate the sample or the test paddle?

A... No, unlike other traditional growth methods used by our competitors, no incubation is needed for the **FUELSTAT[®] *resinae* PLUS Test Kit**.

Q... Do I need to use sterile equipment to take the sample?

A... No, but using clean equipment is good practice, though.

Q... Are there any restrictions on disposal of the test?

A... No, the paddle, pipette and the sample bottle can be disposed of with normal refuse. Any fuel used in the sample extraction bottle should be disposed of with the remainder of the sample taken from the aircraft tank in the normal way.

Q... Why have you set time limits for reading the test results?

A... The test should be read between 10 and 30 minutes after placing the four drops into the 6 sample wells. The 10 minute limit is required because that is the time that the test needs to operate fully. We then guarantee the results for a further 20 minutes. In fact,

nine times out of ten the result displayed will stay visible for a couple of days. However, in certain conditions of heat and humidity, and under certain bright light conditions, the

picture may fade away. That is why we ask you to read it in that 20 minute period. (We also suggest that you photocopy the test paddle after use and keep a paper record for future reference).

Q... Can the FUELSTAT[®] *resinae* PLUS Test Kit be used to show whether biocide treatment has been successful?

A... The **FUELSTAT[®] *resinae* PLUS Test Kit** measures a change in the 3 different types of contamination growth on the fuel which will begin to diminish as soon as the biocide has been used. The test is a monitoring device. Therefore, following the application of the biocide and 5 flights, the tank should be monitored. If levels do not reduce to negative after these 5 flights, the biocide has **not** been totally successful. *H.res* is more resistant to biocides than bacteria so other kits that only monitor bacterial growth within the shorter incubation periods will not indicate whether the *H. res* has been dealt with. *H.res* requires an absolute minimum of 4 days to begin to grow.

Q... We use a dipslide. They are very cheap and are just as good, why should we pay extra for your test?

A... Dipslides are not designed for use with fuels. They will give incorrect, non-reproducible, counts and, of most concern, they will usually under-represent the problem. The manufacturers themselves do not recommend them for this purpose and are concerned with their use in fuel. They are not recommended by IATA for fuel use.

Q... What do the Low and High levels mean in terms of colony forming units (CFU)?

A... With regards to *H.res*, the **FUELSTAT[®] *resinae* PLUS test kit** does not measure CFUs and the results cannot be directly correlated. The measurement of CFU for filamentous fungi is very inaccurate. CFUs have come to be accepted only because nothing better was available. The problem arises because of their structure; a mass of intertwined fibers, bearing long chains of spores. Each CFU may originate from a single spore, a clump of spores or a piece of fragmented hyphae (the "rooting" system). Any correlation to the actual biomass is, therefore, tentative. **FUELSTAT[®] *resinae* PLUS test kit** overcomes this problem by measuring fungus which occurs when it grows on fuel. This also correlates directly with the fungal biomass present. This changed material is also released into the fuel and the water phase where the amount can be measured in micrograms (µg). These levels have been established after laboratory calibration studies, and comparative studies on numerous field samples. While CFUs can be more accurate for yeasts and bacteria, the kit only detects fuel grown material so false positive results are unlikely.

Q... What happens if the device gets wet?

A... If the device is soaked either by water or fuel it will fail-safe. I.E. the control lines will not appear. In this case, the test should be repeated using a new test kit